

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/2/2010 has been entered.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 15-21** rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. *See* MPEP 2111.01.

When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. *See In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 USC § 101*, Aug. 24, 2009; p. 2.

A claim drawn to such a computer readable medium that covers both transitory and non-transitory embodiments may be **amended** to narrow the claim to cover only statutory

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embodiments to avoid a rejection under 35 USC § 101 by adding the limitation "**non-transitory**" to the claim. *Cf Animals - Patentability*, 1077 *Off. Gaz. Pat. Office* 24 (April 21, 1987)(suggesting that applicants add the limitation "non-human" to a claim covering a multicellular organism to avoid a rejection under 35 USC § 101).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **1-21, 24, 30, 32, 38, 40, 44, 51, 53 and 55** rejected under 35 U.S.C. 103(a) as being unpatentable over Grube et al. (5,583,869) in view of Hogberg et al. ( US Patent 6,198,730).

Regarding **claims 1, 8, 15, 40, and 44** Grube et al. disclose an apparatus for allocating channels, comprising:

a memory that stores executable instruction signals (see figure 1, central controller, which contain executable instructions)

a processor that executes the instruction signals to (see figure 1, central controller, contains a processor that executes instructions)

receiving wireless messages that are in compliance with wireless communication standards, at least some of the wireless messages compiling with the wireless communication

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standard (see col. 2-3, lines 65-4, the apparatus, receive messages and monitor to determine a system grade, in compliance with wireless communication system, see figure 1, wireless communication,)

determine the wireless communication standard used by the received first and second wireless message (see col. 3, lines 1-4, determine a system grade of service, based on received message, see also col. 4, lines 20-23, message type, communication standard known )

determine available channels (see col. 4, lines 30-32, determines the number of available communication resources); and

dynamically allocate channels based on the available channels and the wireless communication standards used by the received first and second message to utilize wireless spectrum according to a current usage pattern (see col. 4, lines 16-42, dynamic allocation of the wireless resources, based on the system grade and availability( current usage pattern)).

Grube et al. fails to specifically point out at least some of the wireless messages complying with a second wireless communication standard that is different from the first wireless communication standard as claimed.

However Hogberg et al. teaches at least some of the wireless messages complying with a second wireless communication standard that is different from the first wireless communication standard( see col. 7, lines 1-13, the subscriber transmit a channel request message, which the satellite determines if subscriber is capable to communicate TDMA , CDMA or both, see figure 7) .

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Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with the concept of receiving messages complying with different communication standards because invention provides a multi-mode system and subscriber unit that are able to use both TDMA and CDMA techniques based on the current usage or the load on the system (see Hogberg et al., col. 1, lines 30-33)

Regarding **Claims 2, 9 and 16** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

send a notification to use the channel (see col. 4, lines 30-40, the central controller allocates resources, which it would send a notification)

Regarding **Claims 3, 10 and 17** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 2, 9 and 16*). In addition the method, apparatus, and article includes:

wherein to send an instruction comprises sending an instruction to a software-defined signal processing system to allocate the appropriate channel for the received message (see col. 4, lines 30-40, the central controller, allocates resources, this is done through a use of a table, which reads on software-defined processing system)

Regarding **Claims 4, 11 and 18** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

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wherein the spectrum of channels includes a channel dedicated to AMPS( see col. 2, lines 57-60,a TDM wireless communication system, include a channel dedicated to AMPS ).

Regarding **Claims 5, 12 and 19** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

wherein the received message is a call (see col. 3, lines 45-50, the communication resources allocated for call request, and call assignment)).

Regarding **Claims 6, 13 and 20** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

wherein the received message is a message that is received through an antenna (see col. 2, lines 57-60, a TDM wireless system, which messages are received through an antenna).

Regarding **Claims 7, 14 and 21** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

wherein the received message for transmission(see col. 3, lines 45-50, the communication resources allocated for call request, and call assignment, call assignments reads on message for transmission).

Regarding **Claims 24** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claim 8*).

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wherein the processor sends an instruction to allocate a channel dedicated to the communication standard for communicating with a mobile device that sent the message, a processor sends an instruction to allocate a channel dedicated to the communication standard (see figure 2, section 203, the central controller allocates first number of resources to communication unit)

Regarding **Claim 30** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claim 29*).

wherein the processor chooses from a list of available channels a channel that meets at least one of the frequency requirement and a bandwidth requirement ((see col. 4, lines 30-40, the central controller, allocates resources, this is done through a use of a table, a list of available channel resources, which have frequency and bandwidth requirements)

Regarding **Claim 32** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claim 8*).

wherein the received message comprises a short-message, text, a housekeeping signal, or intended consumer signals (see col. 3, lines 45-50, the communication resources allocated for call request, and call assignment)

Regarding **Claim 38** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claim 8*).

allocates channels dedicated to the communication standards associated with the messages (see figure 203, central controller allocates resources to communication unit, which communication unit is dedicated to communication standards).

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Regarding **Claims 51, 53 and 55** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 1, 8 and 15*).

in which dynamically allocate channels comprises determine an increase in the number of messages complying with the first communication standard, increase the number of channels allocated to the first communication standard, and decrease the number of channels allocated to the second communication standard (see col. 4, lines 16-42, dynamic allocation of the wireless resources, based on the system grade and availability).

Grube et al. fails to specifically point out complying with a first wireless communication standard and a second wireless communication standard as claimed.

However Hogberg et al. teaches a first wireless communication standard and a second wireless communication standard ( see col. 7, lines 1-13, the subscriber transmit a channel request message, which the satellite determines if subscriber is capable to communicate TDMA , CDMA or both, see figure 7) .

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with the concept of receiving messages complying with different communication standards because invention provides a multi-mode system and subscriber unit that are able to use both TDMA and CDMA techniques based on the current usage or the load on the system (see Hogberg et al., col. 1, lines 30-33)

5. **Claims 25, 31, 33-35, 42, 45, 52, 54 and 56-58** rejected under 35 U.S.C. 103(a) as being unpatentable over Grube et al. in view of Hogberg et al. in further in view of Burke et al.( Patent 5,406,643).

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Regarding **Claims 25, 31 and 35** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 24, 30, and 33*).

Grube et al. in view of Hogberg et al. fails to specifically point out wherein the processor sends an instruction to a software-defined signal processing device to send another message to the mobile device to use the allocated channel as claimed.

Burke et al. teaches wherein the processor sends an instruction to a software-defined signal processing device to send another message to the mobile device to use the allocated channel (see col. 4, lines 51-66, the send\_message function interface with packet server through external software delimited by the runtime engine, which provides the ultimate path selection)

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. in view of Hogberg et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claims 52, 54 and 56-58** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 1, 8, 15, 40 and 44*).

Grube et al. in view of Hogberg et al. fails to specifically point out wherein the communication standard is selected from the group of time division multiple access(TDMA), H.323, advance mobile phone service (AMPS), global system for mobile communications (GSM), code division multiple access (CDMA), enhanced data rates for GSM evolution (EDGE) and wideband code division multiple access (WCDMA) standard as claimed.



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Burke et al. teaches wherein the communication standard is selected from the group of time division multiple access (TDMA), H.323, advance mobile phone service (AMPS), global system for mobile communications (GSM), code division multiple access (CDMA), enhanced data rates for GSM evolution (EDGE) and wideband code division multiple access (WCDMA) standard (see col. 3, lines 50-54, Communications paths 4, 6, and 8 may consist of wireless or wireline communications media such as, but not limited to, telephone lines, twisted pair wire, fiber-optic links, infrared channels, and radio frequency channels, AMPS is included as wireless).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. in view of Hogberg et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claims 33 and 34** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claims 14 and 33*).

Grube et al. in view of Hogberg et al. fails to specifically point out wherein the message comprises a broadcast as claimed.

Burke et al. teaches wherein the message comprises a broadcast (see col. 3, lines 50-54, the communication paths consist of radio frequency channels which is capable of sending a broadcast and receiving to a mobile device, see also col. 2, lines 49-53, The device manager maintains a list specifying the possible communications paths to specific end points and actually controls the communications resources responsible for establishing a communications path).

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Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. in view of Hogberg et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claims 42 and 45** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claim 40 and 44*).

Grube et al. in view of Hogberg et al. fails to specifically point out further comprising executable instructions to implement: for each of the received first and second wireless messages, sending an instruction to a software-defined signal processing device to send another message to the first or second wireless device to use the corresponding allocated channel as claimed.

Burke et al. teaches further comprising executable instructions to implement: for each of the received first and second wireless messages, sending an instruction to a software-defined signal processing device to send another message to the first or second wireless device to use the corresponding allocated channel (see col. 4, lines 51-66, the send\_message function interface with packet server through external software delimited by the runtime engine, which provides the ultimate path selection).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. in view of Hogberg et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit

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automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

6. **Claims 27-29 and 43** rejected under 35 U.S.C. 103(a) as being unpatentable over Grube et al. in view of Hogberg et al. in further in view of Palm (Patent 6,735,245).

Regarding **Claims 27, 28 and 43** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claim 8*).

the processor allocates channels dedicated to the communication standards associated with the messages (see figure 2, section 203, the central controller allocates resources to communication unit).

However Grube et al. in view of Hogberg et al. fails to specifically point out wherein the processor receives messages having formats that are in compliance with communication standards, at least some of different messages complying with different communication standards; processor dynamically responds to the messages to utilize spectrum according to a current usage pattern as claimed.

Palm teaches wherein the processor receives messages having formats that are in compliance with communication standards, at least some of different messages complying with different communication standards standard; processor dynamically responds to the messages to utilize spectrum according to a current usage pattern (see col. 4, lines 44-53, auditing a condition of the communication channel, and selection based on the communication standard and the capability, see also col. 5, lines 63-67, analyzing the channel information ( utilized spectrum and current usage pattern), in conjunction with exchanged negotiation information and received channel information, by a processor of the received message)

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Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. in view of Hogberg et al. invention with Palm's invention, because Palm invention detects various configuration capabilities and limitations of a communication channel, to determine an appropriate communication standard appropriate for the existing line conditions (see palm, col. 2, lines 47-51).

Regarding **Claims 29** Grube et al. in view of Hogberg et al. discloses everything as applied above (*see claim 8*).

However Grube et al. in view of Hogberg et al. fails to specifically point out wherein the processor determines frequencies licensed to a user of the message as claimed.

Palm teaches wherein the processor determines frequencies licensed to a user of the message (see col. 2, lines 9-14, the frequency characteristics is useful prior to connection of the communication link).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. in view of Hogberg et al. invention with Palm's invention, because Palm invention detects various configuration capabilities and limitations of a communication channel, to determine an appropriate communication standard appropriate for the existing line conditions (see palm, col. 2, lines 47-51).

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-21, 24-25, 27, 29-35, 38, 40, 42-58 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MON CHERI S. DAVENPORT whose telephone number is (571)270-1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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